

REMARKS

In the Office Action, claims 6 and 14 were rejected under 35 U.S.C. §103(a) as being unpatentable over Applicant's Admitted Prior Art in view of Tanaka in view of Rice (U.S. Pat. No. 5,722,668). Claims 5 and 13 were rejected under 35 U.S.C. §103(a) as being unpatentable over Applicants Admitted Prior Art in view of Winters in view of Havens (U.S. Pat. No. 4,039,741).

In the rejection of claims 6 and 14, the Examiner indicates that "the diameter of the packing is larger than a width of the plasma seal". This observation seems to come from an interpretation in which a direction of compression is not considered as illustrated in Fig. 5(a) of this reference.

In the present application, however, the description is made on the basis of the condition that both the O-ring and the plasma seal are held between the installation member 2 and the opponent member, respectively. Therefore, the matter of the diameter size as interpreted by the Examiner is not applicable. The relationship of compressing the O-ring is not suggested in the Tanaka reference for an integral packing.

Further, the Examiner indicates that an arch shaped plasma seal is disclosed in the Tanaka reference. However, the material corresponding to the plasma seal of the Tanaka reference is perfluoro-rubber. Therefore, it has no effect of preventing

protrusion of an O-ring due to a vacuum (function as back-up ring) which is an effect of the plasma seal made of a PTFE resin harder than rubber of the present invention, even though it has a plasma resistance. In the packing of the Tanaka reference, perfluoro-rubber is an elastic body and thus protrusion readily occurs in a gap in a plasma irradiating direction.

Further, as the description of this effect in paragraphs (2-4) in the present application, there is the effect that creep can be inhibited by a spring force of the O-ring on the basis of a wedge shape in the plasma seal made of PTFE. The Tanaka reference suggests nothing on this point.

On the other hand, as for claims 5 and 13, none of the cited references suggest the point that the plasma seal has also the function of a back-up ring for preventing protrusion of the O-ring into a gap. Although Winters certainly discloses the attachment of a plasma seal in a shallow groove, it is spaced from an O-ring and the two do not closely contact, so that it does not function of a back-up ring.

Further, although it is indicated that Winters is not limited to a shape comprising a core and a jacket, the existence of the core which is an elastic body is considered to be preferable in order for it to function as a plasma seal. However, in this configuration, protrusion into a gap due to a vacuum readily occurs in the plasma seal, similar to the Tanaka reference.

Therefore, a single body of PTFE is used in the present application. That is, the shape which is preferable in Winters cannot exert one of the effects of the present application.

Further, in order to compensate the function as an elastic body in the plasma seal which Winters seeks as the preferable configuration, a form in a round union end shape is limited as compared to the present application. That is, the plasma seal made by a PTFE single body is formed in a round union end shape as a preferable structure in order to afford the function which is not suggested by the Winters invention. Therefore, non-obviousness cannot be found merely because of partial similarity to the prior art.

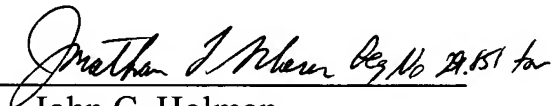
Further, the criticality of the side wall portion of the plasma seal installation groove and the packing installation groove being formed at a right angle with respect to an end surface of the installation member is to prevent movement into the gap 52 (as shown in Figure 7 where only a packing installation groove is shown). This feature is not shown by the prior art.

Based on the foregoing amendments and remarks, it is respectfully submitted that the present application should now be in condition for allowance. A Notice of Allowance is in order, and such favorable action and reconsideration are respectfully requested.

However, if after reviewing the above amendments and remarks, the Examiner has any questions or comments, she is cordially invited to contact the undersigned attorneys.

Respectfully submitted,

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